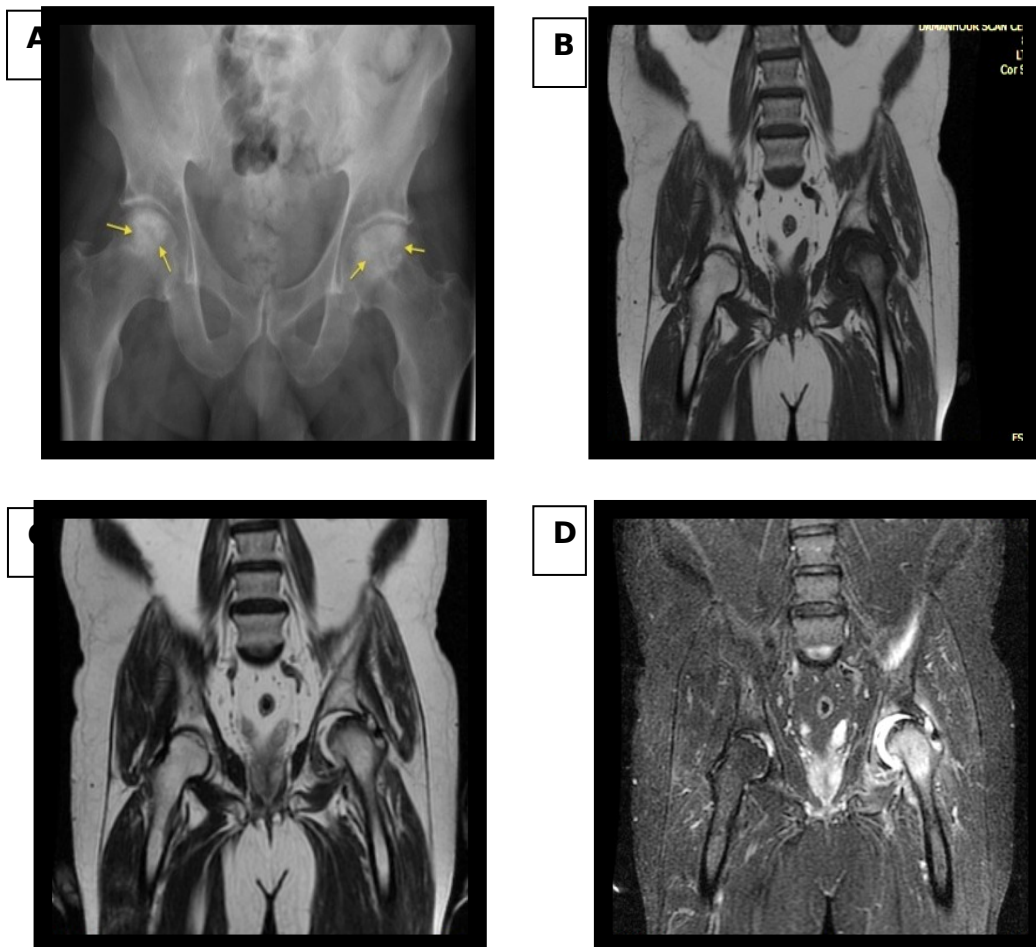


Case No. (1)

A case of bilateral avascular necrosis of femoral head stage 2 on the right side and stage 3 on the left side.

A male patient aged 60 years presented clinically by bilateral hip complaint.



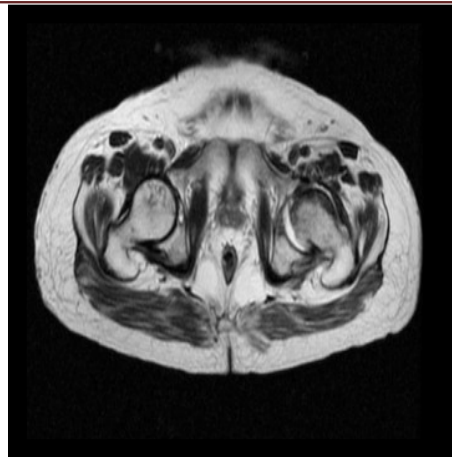


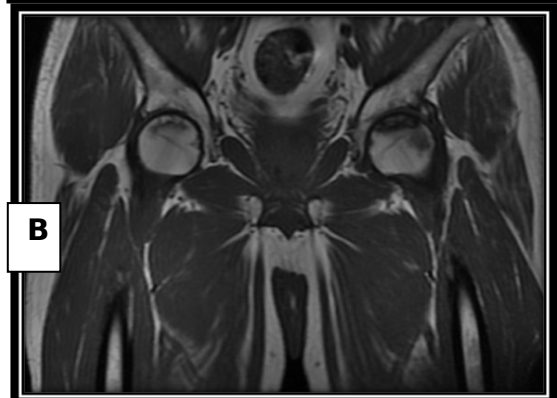
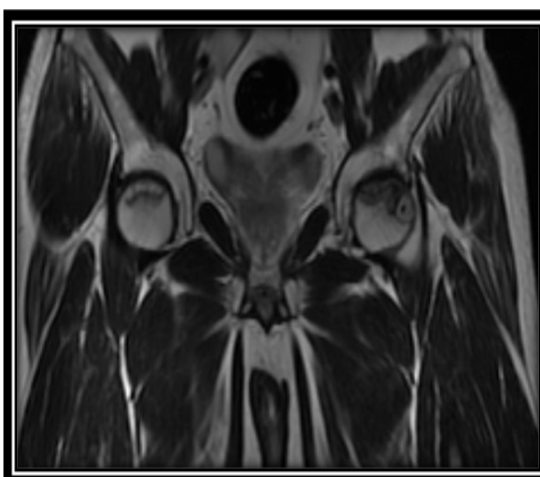
Fig.45 (A-E):A male patient aged 60 years with bilateral avascular necrosis of femoral head stage 2 on the right side and stage 3 on the left side. (A)Plain X-ray of both hips (A.P.V.) revealed; Relative subchondral sclerosis of femoral heads on both sides(yellow arrows).(B, C & D) MR T1WI, MR T2WI coronal sections & MR T2WI coronal section with fat suppression of both hips revealed: On the right side there is low signal intensity of subchondral region in both T1 & T2. On the left side there is loss of normal roundedness of femoral head indicating collapse, bone marrow edema of femoral head, intertrochanteric region and neck appears hypointense in T1 & hyperintense in T2 & STIR images, with osteophytic formation and joint effusion. (E) MR T2WI (axial section) of both hips revealed: serpiginous hyperintense area at the right femoral head showing "double line sign"(white arrow) & joint effusion at the left hip.

Case No. (2)

A case of bilateral avascular necrosis of femoral head stage 2 on right side and stage 3 on left side.

A male patient aged 47 years presented clinically by left hip

pain
with



history of long exposure to
radiation



A

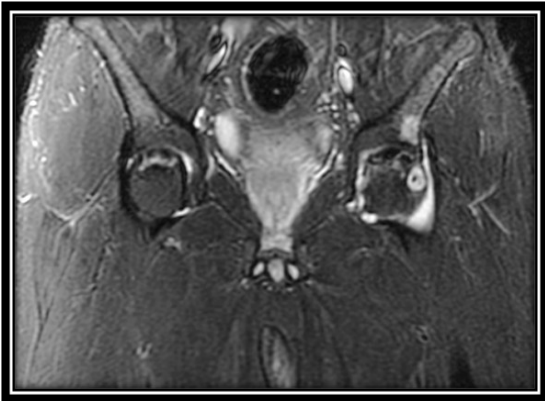
B

D

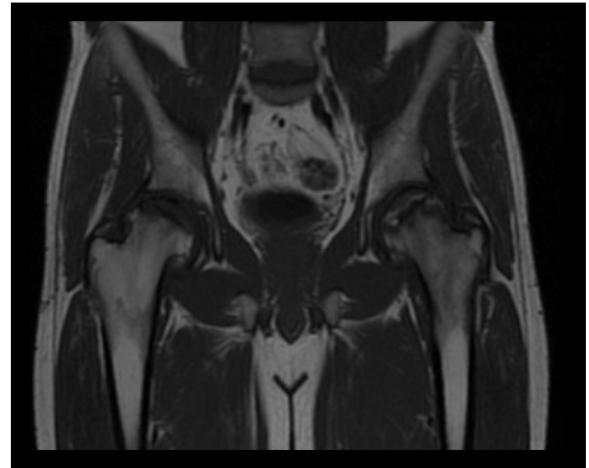


E

Fig.46 (A-E): A male patient aged 47 years with bilateral avascular necrosis of femoral head stage2 on the right side and stage3 on the left side. (A) Plain X-ray of both hips(A.P.V.) revealed: Relative sclerosis of left femoral head. (B, C&D) MR T1WI & T2WI (coronal sections) & T2WI (axial section) of both hips revealed: Subchondral serpiginous heterogeneous low signal intensity of both femoral heads at T1WI & low to intermediate signal intensity at T2WI more evident on the left side with hyperintense cystic lesion(white arrow).(E) MR T2WI (coronal section with fat suppression) of both hips revealed: Subchondral heterogeneous areas at both with bilateral "sign" (white hyperintense is seen in left



serpiginous hyperintense femoral heads "double-line arrows) , cystic formation head and bilateral joint effusion more at left side.



Case No. (3)

A case of Bilateral avascular necrosis of femoral head stage 3.

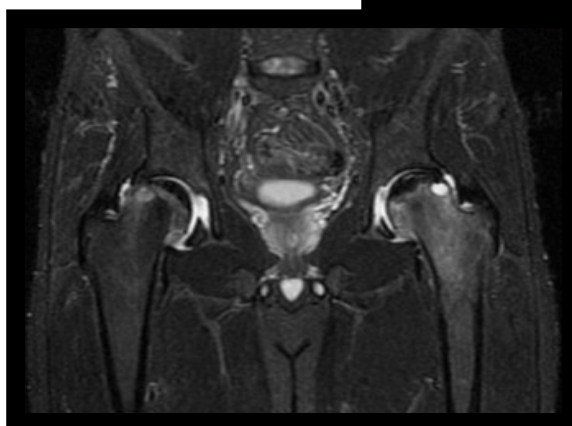
A male patient aged 30years presented clinically by bilateral hip pain and limited mobility.

A

B

D

Fig.47(A-E): A male patient aged 30 years with bilateral avascular necrosis of femoral head stage 3. (A) Plain X-ray of both hips (A.P.V.) revealed: Bilateral relative subchondral sclerosis of both femoral heads(arrows). (B,C&D)MR T1WI & T2WI (coronal sections) & T2WI (axial section) of both hips revealed: Bilateral loss of normal contour of both femoral heads with collapse, with narrow joint space at left side associated with secondary osteoarthritic changes in the form of left femoral head hyperintense cyst seen at T2WI(arrowhead), bone marrow oedema of head and neck on both sides and bilateral hip joint effusion. (E)MR T2WI (coronal section with fat suppression) revealed: marrow femoral head the form of signal with joint effusion(white arrows).



of both hips
Altered bone
signal of left
and neck in
hyperintense
bilateral hip

Case No. (4)

A case of bilateral Avascular necrosis of femoral head stage 3 on the right side and stage 4 on the left side.

A female patient aged 30 years presented clinically by left hip pain, the patient used corticosteroid treatment for chronic medical disease.

A

B

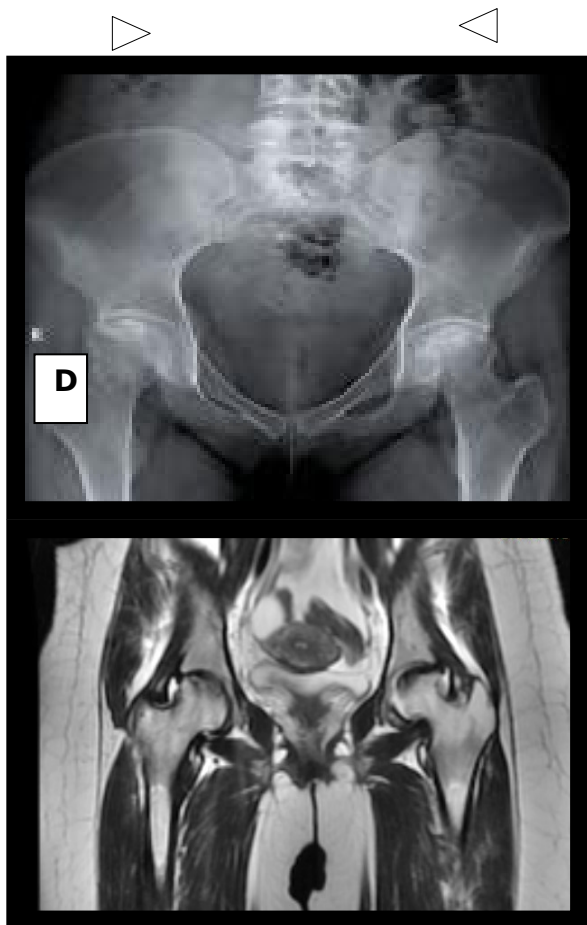


Fig.48 (A- patient

E):A female aged 30

years with bilateral avascular necrosis of femoral head stage 3 on right side and stage 4 on left side. (A) Plain X-ray of both

hips (A.P.V.) revealed: Subchondral sclerosis of both femoral heads (black arrows). (B,C&D)MR T1WI & T2WI (coronal sections) & T2WI (axial section) of both hips revealed: Flattening and collapse of both femoral heads with loss of normal contour associated with osteophytic formation in left side(white arrow), bone marrow oedema of both head and neck showing hypointense signal in T1WI & hyperintense signal in T2WI more obvious at right side with bilateral hip joint effusion(arrowheads) is also noted. (D)MR T2WI (coronal section with fat suppression) of both hips revealed: Bilateral serpiginous areas of high signal intensities, irregularities and degeneration in both femoral heads with bone marrow oedema of head and neck of both femurs(stars).

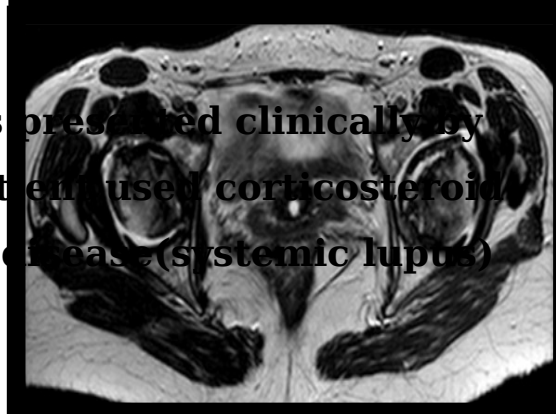
Case No. (5)

A case of bilateral avascular necrosis of femoral



head stage 4.

A female patient aged 23 years presented clinically by bilateral hip complaint, the patient used corticosteroid treatment for chronic medical disease (systemic lupus)



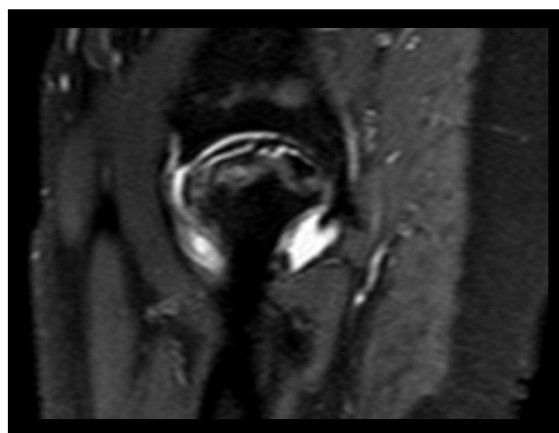
C

D



F

Fig.49(A-F): A female patient aged 23 years with bilateral avascular necrosis of femoral head stage 4. (A) Plain X-ray both hips (A.P.V.) revealed: Bilateral femoral epiphyseal deformity with ill-defined sclerosis, narrowed right hip joint space & marginal osteophytic formation at the left hip. (B,C&D) MR T1WI, T2WI (coronal sections) & MR T2WI (axial section) of both hips revealed: Collapsed and deformed both femoral heads showing hypointense signal in T1WI & serpiginous mainly hypointense signal in T2WI more at left femoral



head (black arrow), Bilateral double line sign is seen at axial section (white arrows), mild bilateral joint effusion is seen with left osteophytic formation

and diminished right joint space.(E&F) MR T1WI with fat suppression (coronal section) of both hips & (sagittal section) of left femoral head revealed: Enhanced areas of both femoral heads denoting living bone tissue, also enhancement & thickened both synovium more at left side.

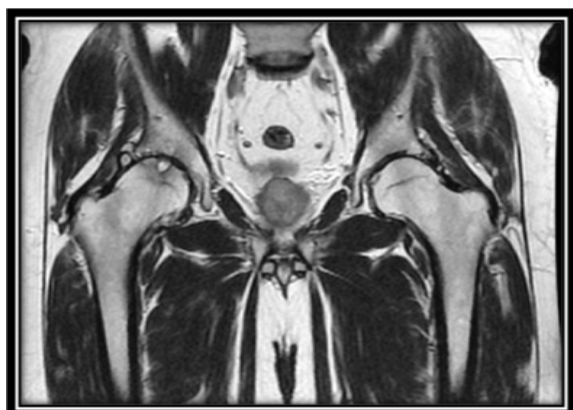


Case No. (6)

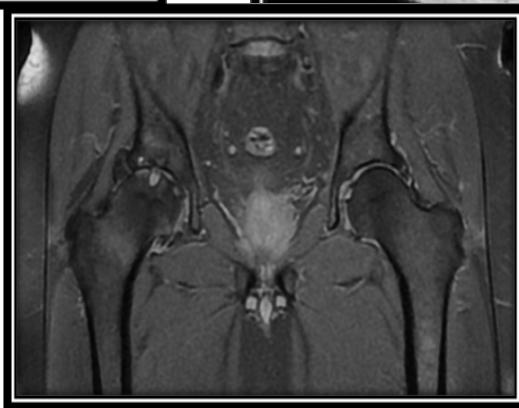
A case of bilateral hip joint osteoarthritis more on the right side.

A male patient aged 61 years presented clinically by chronic hip pain on right side with limitation of movements.

Fig.50 (A-E): A male patient aged 61 years with bilateral hip joint osteoarthritis more on the right side.(A) Plain X-ray of the right hip(AP & Lateral views) revealed: Sclerosis of articular opposing surfaces of hip joint with marginal osteophytes and narrow joint space. (B, C&D) MR T1WI & T2WI (coronal sections) & T2WI (axial section) of both hips revealed: Bilateral



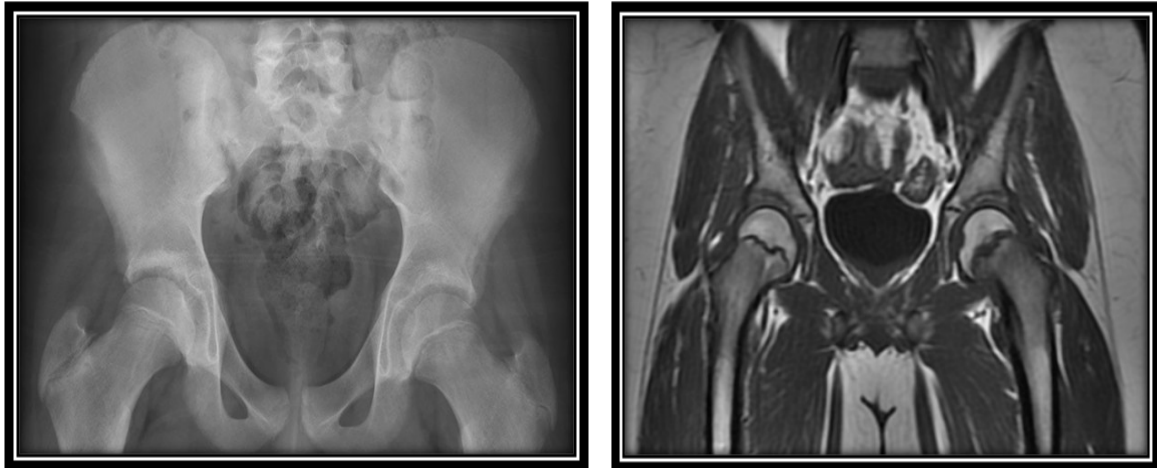
narrowed joint
osteophytes
acetabular roof &
cyst (white arrows)
femoral head
in T1WI and
in T2WI. (E) MR



spaces with
formation in
subchondral
at the right
hypointense
hyperintense
T2WI (coronal

section with fat suppression) of both hips revealed: Osteophytosis, narrow joint spaces, subchondral cyst and

minimal effusion at both sides.



Case No. (7)

A case of Left side slipped capital femoral epiphysis.

A male patient aged 13 years presented clinically by left hip complaint.

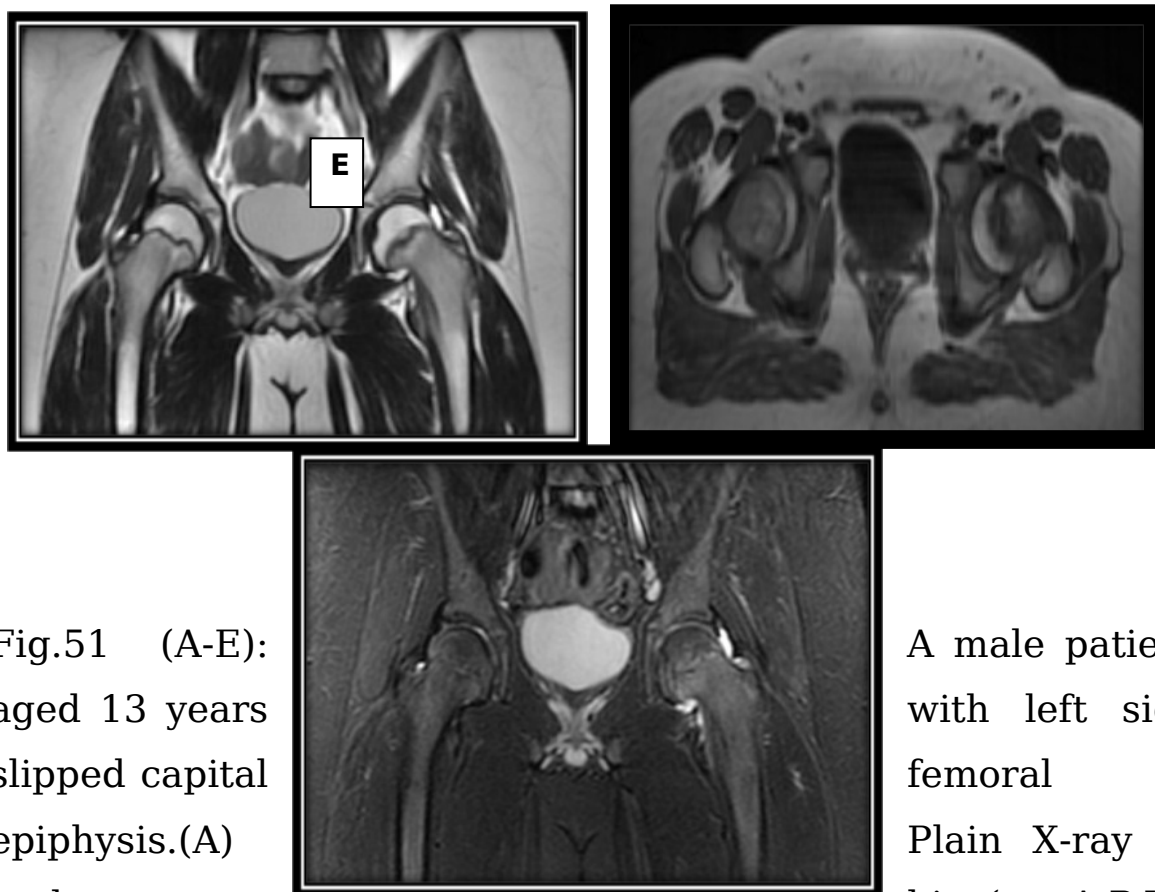


Fig.51 (A-E):
aged 13 years
slipped capital
epiphysis.(A)
both

A male patient
with left side
femoral
Plain X-ray of
hips(A.P.V.)

revealed: Flattening and minimal mal-alignment of the left
capital femoral epiphysis compared to the normal right hip.

(B,C&D) MR T1WI & T2WI (coronal sections) & T1WI (axial section) of both hips revealed: Diffuse flattening with minimal slippage of the left femoral epiphysis medially(white arrows)& mild left joint effusion. (E)MR T2WI (coronal section with fat suppression) of both hips revealed: Early left Metaphyseal edema in comparison to right side & mild left joint effusion(arrowhead).

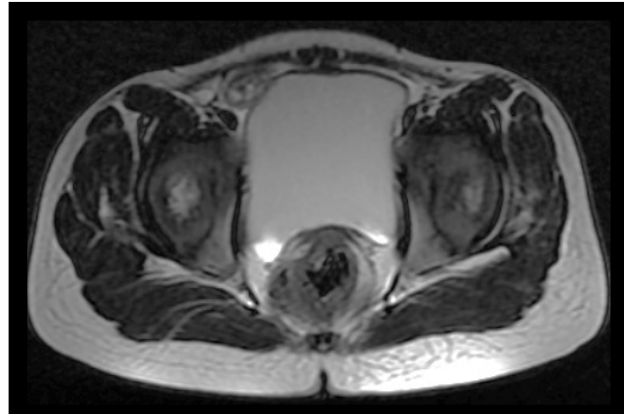
Case No. (8)**A case of Left hip joint osteoarthritis.**

A male patient aged 40 years presented clinically by left hip



E Fig.52 (A-E):A male patient aged 40 years with left hip joint osteoarthritis. (A) Plain X-ray of both hips (A.P.V.) revealed: No abnormal radiological findings.

(B,C&D) MR T1WI & T2WI (coronal sections) & T2WI (axial section) of both hips revealed::Delineated articular cartilage with marginal osteophytic formation & Subchondral cystic formation at left side(in comparison to right side). The left femoral head, neck and shaft show low signal intensity in T1WI & high signal intensity in T2WI denoting bone marrow edema. (E) T2WI (coronal section with fat suppression) of both hips revealed: Minimal effusion in left hip joint(white arrow) with high signal intensity of left femoral head, neck and shaft.



Case No.

**A case of
Perthes
left hip**

A female

4 years



(9)

**Legg-Calve-
disease of
joint.**

**patient aged
presented**

A clinically by bilateral hip pain B ore on the left side.

C

D



Fig.51 (A-E):A female child patient aged 4 years with Legg-Calve-Perthes disease of left hip joint.(A) Plain X-ray both hips (A.P.V.) revealed: Flattening and sclerosis of left femoral epiphysis with fragmentation and widening of the joint space on the left side. (B,C&D) MR T1WI & T2WI (coronal sections) & T1WI (axial section) of both hips revealed: Significant loss of epiphyseal height(flattening) with irregular contour of left femoral capital epiphysis that shows low signal intensity in T1WI & heterogeneous mainly low signal in T2WI in comparison to healthy side due to sclerosis. (E)MR T2WI (coronal section with fat suppression) of both hips revealed: Collapsed left femoral epiphysis with high signal intensity area (fluid) within (white arrow) & mild joint effusion in left hip joint.

Case No. (10)

A case of left hip dislocation with end arthritic changes.

A male patient aged 5 years presented clinically by chronic left hip pain, limitation of movements & swelling.

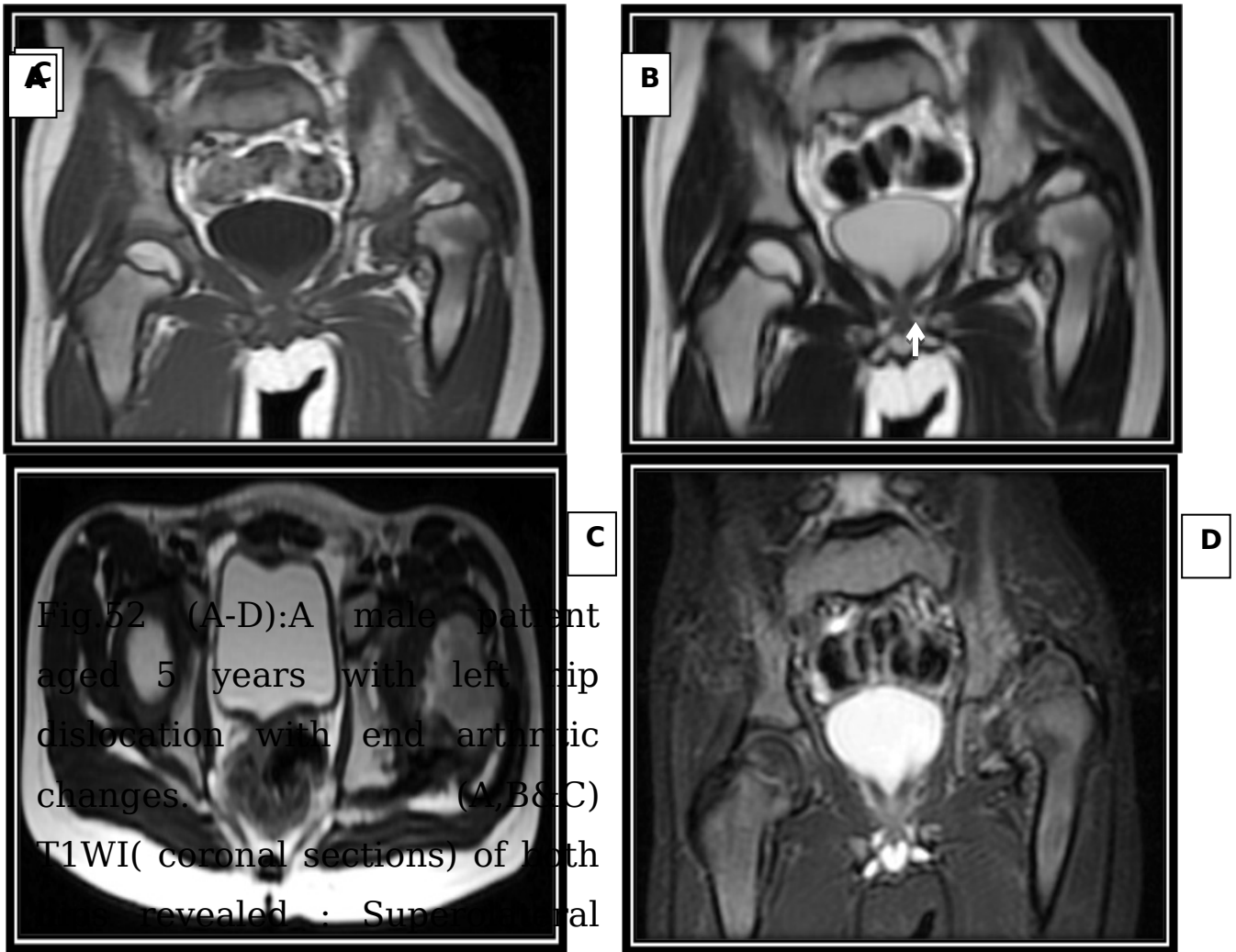


Fig.52 (A-D):A male patient aged 5 years with left hip dislocation with end arthritic changes. (A,B&C)

T1WI(coronal sections) of both hips revealed : Superolateral

displacement of left femoral

head from its normal articulation, early flattening& hypoplasia of femoral head with fine irregularities, hyperintense hypertrophied acetabular labrum(white arrows)& ruptured posterior capsule (arrowhead). (D) T2WI (coronal section with fat suppression) of both hips revealed: Femoral head is displaced superolateral with redundant ligamentum

teres(white arrow) and ruptured posterior capsule.